

**REMARKS**

This is a timely reply to the Office Action of June 17, 2004. Accompanying this response is a request for a one-month extension of time and requisite fees. In the Office  
5 Action, the Examiner rejected all of the pending claims 1-24. The Applicants respectfully request that the Examiner consider the arguments presented in below, and allow the claims, currently pending in this application.

**CLAIM REJECTIONS – 35 USC §103****10 Claim 1**

On pages 2 and 3 of the Office Action, the Examiner rejected Claim 1 under 35  
USC 103(a) as being unpatentable over U.S. Patent No. 5,166,940 to Tummineli et al.  
(herein referred to as the “Tummineli patent”) in view of U.S. Patent No. 5,056,888 to  
Messerly et al. (herein referred to as the “Messerly patent”), U.S. Patent No. 5,031,993 to  
15 Asthana et al. (herein referred to as the “Asthana patent”), and U.S. Patent No. 5,745,617  
to Starodubov et al. (herein referred to as the “Starodubov patent”). Specifically, the  
Examiner stated that the combination of the Tummineli and the Messerly patents teaches  
all of the elements of Claim 1. The Applicants respectfully disagree.

The Examiner asserted that the Tummineli patent illustrates, in figure 14, a ring fiber  
20 laser (90) having gratings (92), (94), (96), (98), and (100), as described in column 5, lines  
12-16. Further, the Examiner asserted that col. 1, lines 64-64 of the Tummineli patent  
discloses the gratings as Bragg gratings and col. 4, lines 31-34 discloses the Bragg  
grating created by a photorefractive technique. The Examiner cited the Asthana patent as  
disclosing the Bragg gratings have alternating birefringence. The Examiner asserted that  
25 the Tummineli patent discloses a similar structure as claimed in the present application.  
The Examiner also admitted that the Tummineli patent is silent as to the structure  
providing single polarization. However, the Examiner asserted that the Messerly patent,  
in col. 1, lines 18-25, (discussing the prior art of York Technologies) discloses obtaining  
a single-mode, single polarization optical fiber by tightly coiling a fiber, which when  
30 combined with induced birefringence causes one polarization to be attenuated.

The Examiner concluded that it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of York Technologies to the fiber laser taught in the Tummineli patent. The Examiner reasoned that because the ring fiber laser has birefringence (provided by the gratings along the ring), the ring fiber laser will attenuate one polarization when tightened as suggested by York Technologies. The Applicants respectfully disagree with the conclusions drawn by the Examiner.

As noted by MPEP 2142, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references, when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991). The Applicants respectfully submit that the cited references do not contain a motivation to combine reference teachings.

Claim 1 claims, "A method for generating a single polarization output from a fiber laser comprising the steps of using a non-destructive technique to fabricate a Bragg grating within the fiber laser and forming the fiber laser at the grating position into a tight curve."

Col. 5, lines 12-16 of the Tummineli patent, states, "The fiber laser according to this invention may also be embodied in a fiber ring laser 90, Fig. 14, which requires no reflective gratings but may use one or more coupling gratings 92, 94, 96, 98 and 100, as previously described." Col. 3, lines 60-67 of the Tummineli patent describes coupling gratings as being a loss port through which unwanted frequencies are deflected out of the resonant cavity. Thus, the Applicants submit that the Tummineli patent teaches use of coupling gratings interspersed within a large loop to get rid of unwanted frequencies within the loop.

Col. 1, lines 18-26 of the Messerly patent states, "In the mid 1980's, York Technologies introduced a polarizer based on a single-mode, single-polarization optical fiber that has been tightly coiled and supplied in a sealed housing. The coiling results in

a bending loss which, in combination with stress-induced birefringence, causes one polarization to be attenuated while the orthogonal state propagates down the fiber core.” Thus, the Applicants submit that the Messerly patent teaches a tight coil to attenuate one polarization.

5       The Applicants respectfully remind the Examiner that the motivation to combine references must be found in the prior art and not in the Applicant’s own disclosure. The Applicants respectfully request that the Examiner point out where in the Tummineli patent it is suggested to have a single polarization. Or the Applicants request that the Examiner point out where in the Messerly patent it is suggested that coupling gratings to  
10       get rid of unwanted frequencies would be desired. The Applicants submit that neither the Tummineli patent nor the Messerly patent provides any motivation to combine a grating with a tight loop to obtain a single polarization. The Messerly patent discloses a single polarization is obtained by tightly coiling a single-mode fiber. Since the Messerly patent teaches the use of a single-mode fiber, it is unclear how the Examiner interpreted the  
15       need for coupling gratings. Therefore, the Applicants submit that neither reference contains the motivation to combine the references. If one skilled in the art was not looking at the Applicants’ claims, the Applicants submit that he would not have tightly coiled the ring laser of the Tummineli patent. Therefore, the Applicants respectfully request that the Examiner withdraw his rejection of Claim 1.

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#### **Claims 2-8**

Claims 2-8 are dependent upon Claim 1. For the reasons given above, the Applicants submit that Claim 1 is patentable over the art cited by the Examiner. Therefore, the Applicants submit that claims 2-8 are also patentable over the art cited by the Examiner  
25       at least though their dependency on an allowable base claim.

#### **Claims 9-16**

The same arguments presented above in favor of the patentability of Claim 1 can also be applied to Claim 9. As such, the Applicants submit that Claim 9 is also patentable  
30       over the cited prior art. Therefore, the Applicants submit that Claim 9 contains patentable subject matter and should be allowed. As such, the Applicants further submit

that Claims 9-16 are also patentable at least through their dependence upon an allowable base claim.

**Claim 17-24**

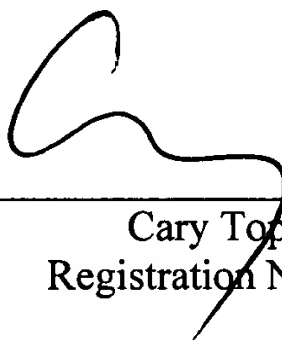
5       The same arguments presented above in favor of the patentability of Claim 1 can also be applied to Claim 17. As such, the Applicants submit that Claim 17 is also patentable over the cited prior art. Therefore, the Applicants submit that Claim 17 contains patentable subject matter and should be allowed. As such, the Applicants further submit that Claims 17-24 are also patentable at least through their dependence upon an allowable  
10   base claim.

**Concluding Remarks:**

In view of the foregoing, it is respectfully submitted that all now pending Claims 1-24 are in allowable condition. Reconsideration is respectfully requested. Accordingly, early allowance and issuance of this application is respectfully requested. Should the Examiner have any questions regarding this response or need any additional information, please contact the undersigned at (310) 589-8158.

Respectfully submitted,

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15 Date 10/15/04

  
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